

**ABSTRACT:**

A sound reproduction system comprises headphones (11). Said headphones comprise means for generating sound (4, 5) and microphones (6, 7)(i.e. means for recording sound). Further the system comprises filter means (8,9) to filter a signal such that the sound produced simulates external sound sources. The system comprises a feed-back and control system (10) in which a signal ( $r_l(k)$ ,  $r_r(k)$ ) from the microphone (6, 7) is used to set the settings  $W_{XL}(k)$ ,  $W_{XR}(k)$  of the filter means (8,9).

Fig. 2